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ENCODER STRIP REQUIRING ONLY ONE PERSON TO MOUNT

HP INC

Encoder Strip Requiring Only One Person To Mount

Abstract: A hinge arrangement at an end bracket of a printer allows a single person to mount an encoder strip in the printer.

This disclosure relates to the field of printers

A technique is disclosed that allows a single person to mount an encoder strip in a printer without assistance.

Many electronic devices use encoders for position control. In some printers, for example wide-format printers, an encoder may be used to control the position of the carriage along the print zone, allowing it to move the carriage properly and print with the best image quality. The encoder may be made of a metallic strip and a plastic strip glued together. The plastic strip contains thousands of lines in order to function as an encoder. Typically the strip is screwed to end brackets of the printer which are in the lateral part of the scan beam.

In many cases, it is difficult or impossible for a service engineer to mount or dismount the encoder without the assistance of a second person. This is because the encoder is mounted with tension in order to avoid bowing of the encoder strip between the end brackets. It is difficult to mount the encoder in this way and always requires at least two people, one generating the tension, and the other screwing the encoder strip spring support to the end bracket.

According to the present disclosure, and as understood with reference to the Figure, a hinge arrangement installed on one of the end brackets 10 allows a single person to both create the required tension in the encoder strip 20, and attach the encoder strip 20 to the end bracket 10, without the person moving to the other side of the printer.

To mount the encoder strip 20 according to the present disclosure, the user first assembles the encoder strip spring 30 to the encoder strip 20. Then the spring 30 is attached to the spring support 40 using pins (not shown, in red bubble region) on the support 40. The spring support 40 is rotatably attached adjacent one end to the end bracket 10 via hinges which correspond to rotation axis 50. The encoder spring support 40 is then rotated in the direction 60. During rotation, the encoder strip 20 acquires the required tension. Rotation continues until the encoder spring support 40 is positioned against the end bracket 10. Screws (not shown) then attach the support 40 (along with spring 30 and encoder 20) to the end bracket 10. As a result, the encoder strip 20 is both mounted and properly tensioned.

The disclosed technique advantageously allows a single person to quickly and easily mount or dismount the encoder strip.

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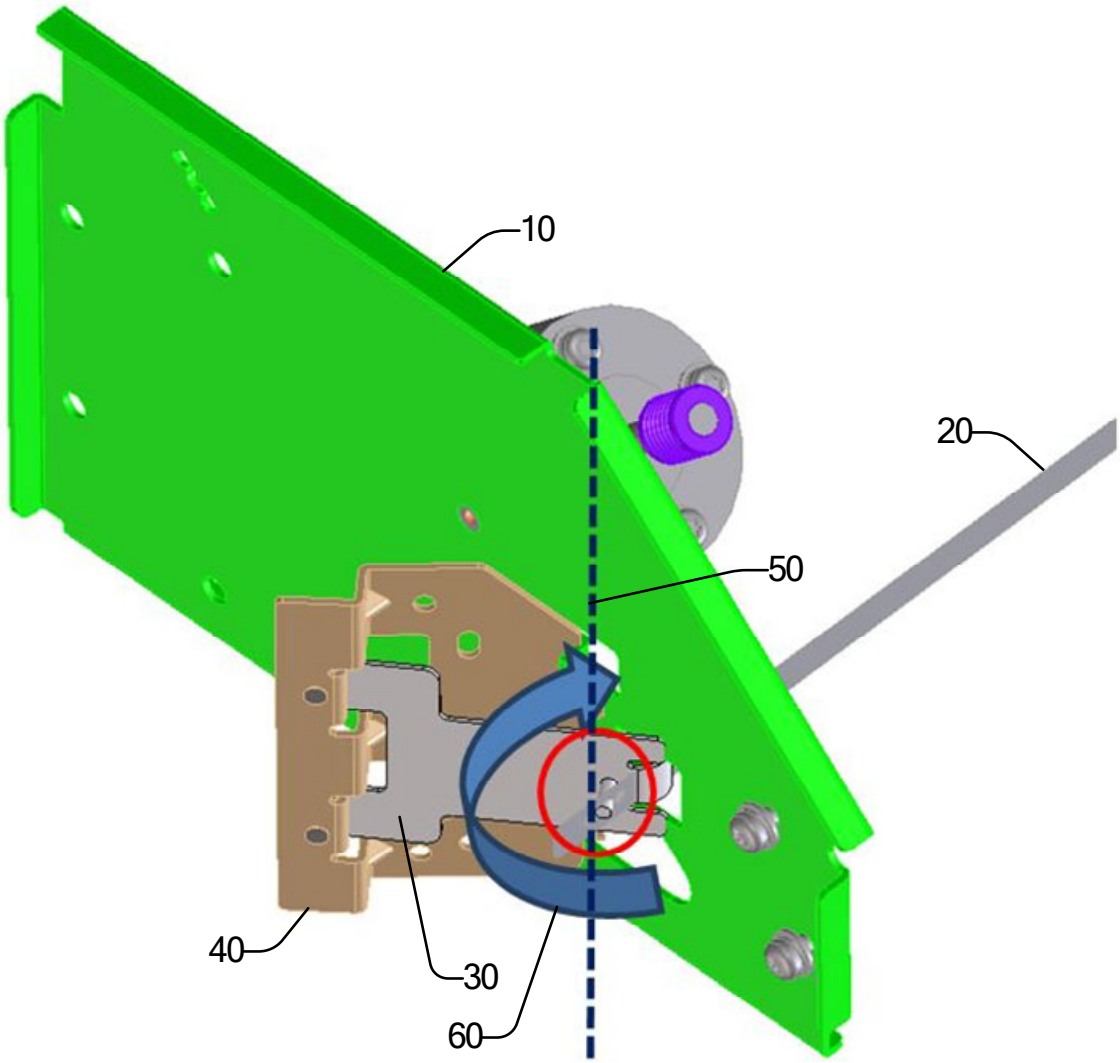
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